

32. (New) An expression vector comprising the nucleic acid of claim 31.

33. (New) An isolated host cell comprising the expression vector of claim 32.

34. (New) The host cell of claim 33, wherein the cell is prokaryotic.

35. (New) The host cell of claim 33, wherein the cell is eukaryotic.

36. (New) A method of producing a glycosyl sulfotransferase-3 polypeptide, said method comprising:

growing a cell according to claim 33, whereby said polypeptide is expressed; and  
isolating said polypeptide substantially free of other proteins.

37. (New) An isolated nucleic acid comprising a sequence which encodes a fragment of at least about 15 contiguous amino acids of the sequence depicted in SEQ ID NO:02, wherein said fragment comprises a sulfate acceptor binding site of glycosyltransferase-3.

38. (New) The nucleic acid of claim 37, wherein said acceptor binding site-encoding sequence comprises amino acids 50 to 78 of SEQ ID NO:02.

39. (New) An expression vector comprising the nucleic acid of claim 37.

40. (New) An isolated host cell comprising the expression vector of claim 37.

41. (New) The host cell of claim 40, wherein the cell is prokaryotic.

42. (New) The host cell of claim 40, wherein the cell is eukaryotic.

43. (New) A method of producing a polypeptide comprising a sulfate acceptor binding site of glycosyl sulfotransferase-3, said method comprising:

growing a cell according to claim 40, whereby said polypeptide is expressed; and  
isolating said polypeptide substantially free of other proteins.

44. (New) An isolated nucleic acid comprising a sequence which encodes a fragment of at least about 15 contiguous amino acids of the sequence depicted in SEQ ID NO:2, wherein said fragment comprises a sulfate donor binding site of glycosyltransferase-3.

45. (New) The nucleic acid of claim 44, wherein said donor binding site comprises the amino acid sequence Val-Arg-Tyr-Glu-Asp-Leu (SEQ ID NO:9).

46. (New) An expression vector comprising the nucleic acid of claim 44.

47. (New) An isolated host cell comprising the expression vector of claim 46.

48. (New) The host cell of claim 47, wherein the cell is prokaryotic.

49. (New) The host cell of claim 47, wherein the cell is eukaryotic.

50. (New) A method of producing a polypeptide comprising a sulfate donor binding site of glycosyltransferase-3, said method comprising:  
growing a cell according to claim 47, whereby said polypeptide is expressed; and  
isolating said polypeptide substantially free of other proteins.

51. (New) An isolated nucleic acid comprising at least 25 contiguous nucleotides of the sequence set forth in SEQ ID NO:01.

52. (New) An expression vector comprising the nucleic acid of claim 51.

53. (New) An isolated host cell comprising the expression vector of claim 51.

54. (New) A method of producing a glycosyl sulfotransferase-3 polypeptide or fragment thereof, said method comprising:

growing a cell according to 53, whereby said glycosyl sulfotransferase-3 polypeptide is expressed; and

isolating said glycosyl sulfotransferase-3 polypeptide substantially free of other proteins.

55. (New) An isolated nucleic acid comprising a sequence which encodes a fragment of at least about 15 contiguous amino acids of a polypeptide having at least about 60% amino acid sequence identity to the sequence depicted in SEQ ID NO:02, wherein said fragment comprises a sulfate acceptor binding site of glycosyltransferase-3.

56. (New) An isolated nucleic acid comprising a sequence which encodes a fragment of at least about 15 contiguous amino acids of a polypeptide having at least about 60% amino acid sequence identity to the sequence depicted in SEQ ID NO:02, wherein said fragment comprises a sulfate donor binding site of glycosyltransferase-3. --

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